Development of CLT030-ADC, a Leukemic Stem Cell Targeting Antibody-Drug-Conjugate, for Treatment of Acute Myeloid Leukemia

Grant Award Details

Development of CLT030-ADC, a Leukemic Stem Cell Targeting Antibody-Drug-Conjugate, for Treatment of Acute Myeloid Leukemia

Grant Type: Late Stage Preclinical Projects

Grant Number: CLIN1-09776

Project Objective: Complete nonclinical and IND-enabling activities including GLP toxicity studies. Manufacture product to support IND enabling activities and Phase 1 trial. Generate clinical protocol and file IND for Phase 1 trial.

Investigator:

Name:	Jagath Junutula
Institution:	Cellerant Therapeutics, Inc.
Type:	PI

Disease Focus: Acute Myeloid Leukemia, Blood Cancer, Cancer

Human Stem Cell Use: Cancer Stem Cell

Award Value: $6,863,755

Status: Active

Grant Application Details

Application Title: Development of CLT030-ADC, a Leukemic Stem Cell Trageting Antibody-Drug-Conjugate, for Treatment of Acute Myeloid Leukemia

Public Abstract:

Therapeutic Candidate or Device

CLT030-ADC, a novel drug targeting a leukemic stem cell surface protein CLL1, is intended to improve therapeutic outcome for AML patients.

Indication

CLT030-ADC is intended to improve remission rates in AML patients.

Therapeutic Mechanism

CLT030-ADC is an antibody-drug conjugate targeting leukemic stem cell surface protein CLL1. Leukemic stem cells (LSC) are believed to be responsible for disease recurrence and are resistant to chemotherapy. CLT030-ADC specifically targets LSC as a primary mode of action. CLT030-ADC is stable in the bloodstream and releases its DNA binding payload upon binding to LSC and internalization. The payload binds to the cellular DNA and kills the cell.

Unmet Medical Need

The current standard of care for AML patients is inadequate as evidenced by low survival rates. The chemotherapy does not kill LSC, which are believed to be responsible for relapse. By targeting LSC with CLT030-ADC, remission rates could be higher resulting in prolonged survival.

Project Objective

Filing of IND for Phase 1 trial.

Major Proposed Activities

- Complete nonclinical and IND-enabling activities including GLP toxicity studies
- Manufacture product to support IND enabling activities and Phase 1 trial
- Generate clinical protocol and file IND for Phase 1 trial

Statement of Benefit to California:

Approximately 20,000 new AML cases are diagnosed annually in the United States, and about 8% of the cases are in California. The five-year survival rate is around 25% and 5% for patients over 65. CLT030-ADC has the potential of prolonging patients' lives and improving quality of life. This could help productive citizens reenter the workforce and decrease the burden on the California healthcare system. Also the state's economy benefits by creating more jobs from the growth of this company.

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